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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,525

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EXAMINER

ANDREWS, MICHAEL

ART UNIT

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4176

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,525	<b>Applicant(s)</b> KLAUSSNER ET AL.	
	<b>Examiner</b> MICHAEL ANDREWS	<b>Art Unit</b> 4176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-8, 10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office Action is responsive to the Applicant's amendment filed January 28, 2009. In virtue of this amendment:

- Claims 1 and 9 were cancelled; and thus
- Claims 2-8 and 10-11 are now pending in the instant application.

### ***Response to Arguments***

1. Applicant's arguments, see pages 3-4, filed January 28, 2009, with respect to the rejection(s) of claim(s) 6, 10, and 11 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 7-8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chochoy et al. (Publication No: US 2003/0006654A1), hereinafter referred to as “Chochoy”, in view of Du (Publication No: US 2002/0148100A1).

With regard to claims 8, 10, and 11, Chochoy discloses an electric motor [10] (see figure 1 for all Chochoy reference numerals unless otherwise stated; see [0083], lines 1-3 and [0004], lines 1-5) for a drive of a vehicle (This is intended use language and does not further limit the claim.), comprising:

a rotor [16] (see [0083], lines 1-3);

a stator [14] (see [0084], lines 1-2) formed from a laminated core [22] (see [0085], lines 1-3) and provided with grooves [28] (see [0086], lines 1-4; referred to as “slots”) for arrangement of at least one winding [32] ending in the winding heads [39] (see [0093], lines 1-4); and

wherein the winding [32] is formed from round wires (see figures 2-3) which are each embraced by an insulation [36] (see [0088], lines 1-3), and the winding heads [39] are embedded in a temperature-resistant elastic material [38] (see [0089], lines 1-6) for protection against external influences (This is intended use language and does not further limit the claim.), so that the electric motor satisfies at least the requirements of thermal class 200 (This is intended use language and does not impose any further limitation, as satisfying said requirements of thermal class 200 is a result of the winding heads being embedded in a temperature-resistant material.);

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wherein the insulation [32] of the round wires includes at least one layer of polyimide film (see [0087], lines 5-6).

Chochoy does not expressly disclose a cooling system for circulating cooling air through the electric motor.

Du discloses an electric motor with a cooling system [122] (see figure 2 and [0023], lines 1-3) for circulating cooling air (it is inherent that fans are used to move air) through the electric motor [100] (see figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the motor device of Chochoy with an integrally formed fan as taught by Du, for the cooling thereof, since Du teaches that an integrally formed fan better resists extreme temperatures (see [0010], lines 7-12).

With regard to claim 7, the combination of Du and Chochoy discloses the limitations of claim 10, as stated above, wherein the insulation of the round wires can include at least one high-temperature thermoplast [34, 36] (see figure 2 of Chochoy) applied by extrusion. Chochoy teaches that windings can be made up of round wires [34] (see figure 2 of Chochoy), and that the insulation [36] (see figure 2 of Chochoy) for those windings can be "of the thermoplastic type, the melting point of which is higher than the maximum working temperature of the rotary electrical machine" (see ¶ [0046] of Chochoy). Although Chochoy does not explicitly disclose the method of extruding the thermoplastic material, this is not a functional statement as the insulation would have the same effect regardless of how it was initially applied to the winding.

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4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du and Chochoy as applied to claim 10 above, and further in view of King (U.S. Patent No. 3,932,928).

With regard to claim 2, the combination of Du and Chochoy discloses the limitations of claim 10, as stated above, except that the combination does not expressly disclose that the temperature-resistant elastic material is a silicone rubber.

King discloses that silicone rubber can be used as a temperature-resistant elastic material (see abstract, lines 4-5; lines 12, 17-18 of column 1). King teaches that silicone rubber can be used as an electrical insulator to make stator windings capable of withstanding high temperatures and pressures (lines 1-5 of column 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the motor device of Du by embedding the winding heads in a temperature resistant elastic material such as silicone rubber as taught by King, for the insulation thereof, since King teaches that such silicone rubber material can be used as an electrical insulator and that it is capable of withstanding high temperatures and pressures (see lines 12, 17-18 of column 1; lines 1-5 of column 2).

With regard to claim 3, the combination of Du, Chochoy, and King discloses the limitations of claims 2, as stated above. Du also discloses that the cooling system [122] (see figure 2) is configured to allow air (see figure 2) to flow around the winding heads [118] (see [0020], lines 21-23; It is implicitly disclosed that the fan directs air axially, which would pass over the winding heads as shown in figure 2).

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King also discloses that silicone rubber can be used as a temperature-resistant elastic material (see abstract, lines 4-5; lines 12, 17-18 of column 1). King teaches that silicone rubber can be used as an electrical insulator to make stator windings capable of withstanding high temperatures and pressures (see lines 1-5 of column 2).

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du and Chochoy as applied to claim 10 above, and further in view of Stahl et al. (U.S. Patent No. 6,437,468 B2), hereinafter referred to as "Stahl".

With regard to claim 4, the combination of Du and Chochoy discloses the limitations of claim 10, as stated above, except that the combination does not expressly disclose that the stator is constructed with cooling bores through which the cooling air flows.

Stahl discloses that the stator can be constructed with cooling bores [46] (see figure 3) through which the cooling air flows (see lines 46-49 of column 3). Stahl teaches that cooling bores, or cylindrical holes, through the components of the motor can allow air to flow for the purpose of cooling said components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the motor device of Du by using cooling bores to allow cooling air to flow as taught by Stahl, for the cooling thereof, since Stahl teaches that such cooling bores can be used to allow cooling air to flow through and cool a motor (see lines 46-49 of column 3).

With regard to claim 5, Du discloses the limitations of claim 10, as stated above, except that Du does not expressly disclose that the stator is connected to the motor housing by webs, with the cooling air flowing between the motor housing and the stator.

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Stahl discloses that the stator is connected to the motor housing by webs (see lines 5-13 of column 6), with the cooling air flowing between the motor housing and the stator [16, 18, 12G] (see figure 2; and lines 6-7 of claim 2). Stahl teaches that the housing can be connected to the stator with a web, containing a plurality of air passages, that allows air to flow and cool the motor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the motor device of Du by using webs to connect the stator to the motor housing as taught by Stahl, since Stahl teaches that such webs can be used to allow cooling air to flow through air passages that allow air to flow and cool the motor (see lines 13-20 of column 6).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Du and Chochoy as applied to claim 10 above, and further in view of Baumann et al. (Patent No: US 6,140,590), hereinafter referred to as "Baumann".

With regard to claim 6, the combination of Du and Chochoy discloses the limitations of claim 10, as stated above, except that the combination does not expressly disclose that the grooves [28] (see [0086], lines 1-4 of Chochoy) are lined with a groove side insulation [44] (see figure 2 and [0090], lines 1-4 of Chochoy) formed from a material containing mica.

Baumann discloses using a material containing mica to insulate the windings within grooves of a stator (see col. 1, lines 7-10 and col. 2, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the electric motor of Du and Chochoy by using mica in the groove side insulation as taught by Baumann, for the insulation thereof, since Baumann teaches that using a



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mica, resin composite provides improved dielectric and thermal properties in the insulation (see col. 1, lines 40-45).

### *Citation of Relevant Prior Art*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art:

- Baumann et al. (US Patent No: 6,140,590) discloses using insulation containing mica on stator windings;
- Fraunhofer et al. (Publication No: US 2007/0117478 A1) discloses supporting a stator winding within a support structure with web-type support teeth; and
- Kawazoe et al. (US Patent No: 4,908,541) discloses forming slits between projecting portions of a stator coil to allow air to pass and cool the coil.

### *Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL ANDREWS whose telephone number is (571)270-7554. The examiner can normally be reached on Monday through Thursday between the hours of 8:30 and 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thuy V. Tran can be reached on (571)272-1828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. A./  
Examiner, Art Unit 4176

/Thuy Vinh Tran/  
Supervisory Patent Examiner, Art Unit 4176  
03/23/09